

ABSTRACT

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The invention provides a solid sorbent composition for removal of carbon dioxide and other acidic components from a gaseous stream, said composition being a product of a reaction of a mixture of at least one liquid absorbent material selected from the group consisting of amino alcohols and amino alcohols in combination with a sodium carbonate, a sodium bicarbonate, a potassium carbonate, a potassium bicarbonate and mixtures thereof, with at least one hardener selected from the group consisting of at least one metal oxide, wherein said metal is selected from the group consisting of zinc, aluminum, magnesium, alkaline earth metal oxides and mixtures thereof, said absorbent being capable of absorbing carbon dioxide and other acidic components and said reaction product being formed by heating the above mixture to effect a chemical reaction between the components of the above mixture with formation of a reaction product wherein said liquid absorbent material and said hardener combine upon heating to form said solid sorbent composition.

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